One Year In:

The Downtown Bike Network

Interim Report

Edmonton

November 2018

Introduction

After one year, the Downtown Bike Network has helped encourage more people to consider cycling year–round and helped cyclists feel safer. �'

The Downtown Bike Network is 7.8 km of protected bike lanes, shared roadways and paths with the goal of helping Edmontonians of all ages and abilities travel around Downtown. It opened in the summer of 2017 in response to City Council's motion to create a minimum grid for physically separated bike lane infrastructure in the core. After one year, the Downtown Bike Network has helped encourage more people to consider cycling year–round and helped cyclists feel safer. Much has been learned through the project

and that information will lead to improvements to better serve all users traveling downtown— whether cycling, walking or driving. This report provides an initial look at the data, and will contribute to a more comprehensive report targeted for 2019.

The *Downtown Bike Network Interim Report* provides a brief snapshot of what has been learned so far from the data collected based on metrics endorsed by City Council.
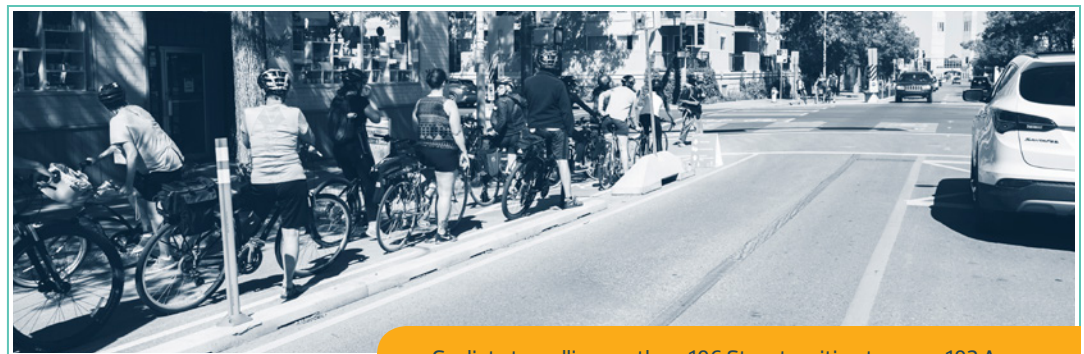
Cyclists travelling north on 106 Street waiting to cross 102 Avenue.

Background

Many cities across the world have identified bicycling as an important element in their overall approach to land use and transportation planning. Through the 2009 *Bicycle Transportation Plan*, Edmonton identified cycling as an important part of the transportation system that contributes to a livable city. As more people continue to live, work and visit downtown, it is important to provide cycling infrastructure that is safe, comfortable, and friendly to all ages and abilities. This includes balancing the impacts of cycling infrastructure on pedestrians, cyclists, motorists and business owners.

A protected bike lane provides space for the exclusive use of cyclists and is separated from vehicle travel lanes, parking aisles and sidewalks. Protected bike lanes are high quality infrastructure that provide a safer and more comfortable environment for cyclists. The Downtown Bike Network is predominately two–way protected bike lanes at street level and separated by moveable curbing, bollards and vehicle parking. It is demarcated by different pavement treatments, colours and markings and includes specific signals. The Downtown Bike Network is adaptable to respond to major shifts in traffic and infrastructure, such as the completion of significant projects like the Valley Line LRT and the ICE District.

Downtown Bike Network Goals

Four main targets were identified to measure if and how well the Downtown Bike Network was achieving its goals (refer to graphic below).

Administration used a variety of sources to compile this report, including traffic counts, online surveys, on-street surveys, social media and 311 data. While this *Downtown Bike Network Interim Report* provides a snapshot, the information will contribute to a more comprehensive report targeted for 2019. The

2019 report will include collision and safety information from a road safety review, as well as a further review of cyclist volumes, connectivity and user perceptions completed by the University of Alberta Centre for Smart Transportation. The report will also include results of a snapshot survey on how patron shopping habits and perceptions have changed over time for street-oriented businesses along the Downtown Bike Network.

1. **INCREASE THE NUMBER** OF CYCLE TRIPS BEYOND **THE 2016 BASELINE**

2. **INCREASE THE PROPORTION** OF FEMALE CYCLISTS RIDING DOWNTOWN

3. **DECREASE THE NUMBER** OF CYCLIST-RELATED REPORTED INJURIES

4. **INCREASE THE NUMBER** OF POSITIVE USER EXPERIENCES

What We Heard and Observed

The data collected was analyzed to measure how the Downtown Bike Network is performing. In some cases more than one data source helped inform how the network is meeting each of the targets.

BIKE VOLUME*

AM
582
Average Peak Volume

PM
768
Average Peak Volume

Westbound at
100
Avenue
west of 106 St.

Location/direction with the highest volume

TIME

LOCATION

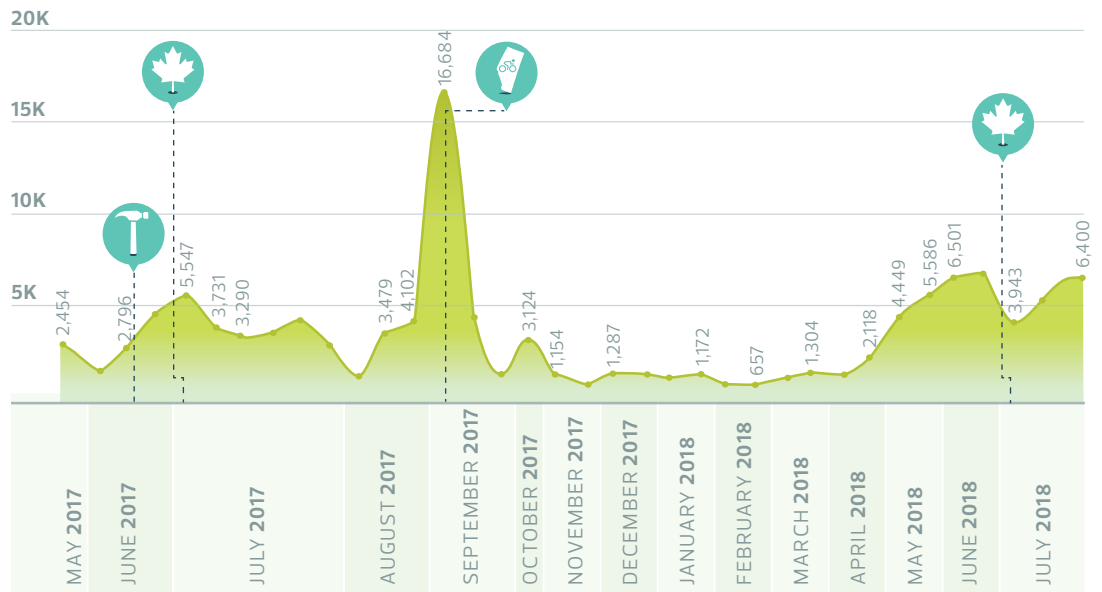** Numbers gathered after the opening of the Downtown Bike Network*

Cycle Trips

Bicycle counts are being monitored at different locations along the Downtown Bike Network since it opened. These counts have been taken approximately every two weeks, at 13 different locations, on weekdays, weekends, holidays and event days. As of August 31, 2018, the City has switched to real time counts at these locations via Eco-Counters, which will provide ongoing monitoring. The number of cycling trips along the Downtown Bike Network are shown in Figure 1 below:

FIGURE 1: Bicycle Counts Along the Downtown Bike Network

JUNE 16, 2017
Downtown Bike Network Begins to Open in Phases
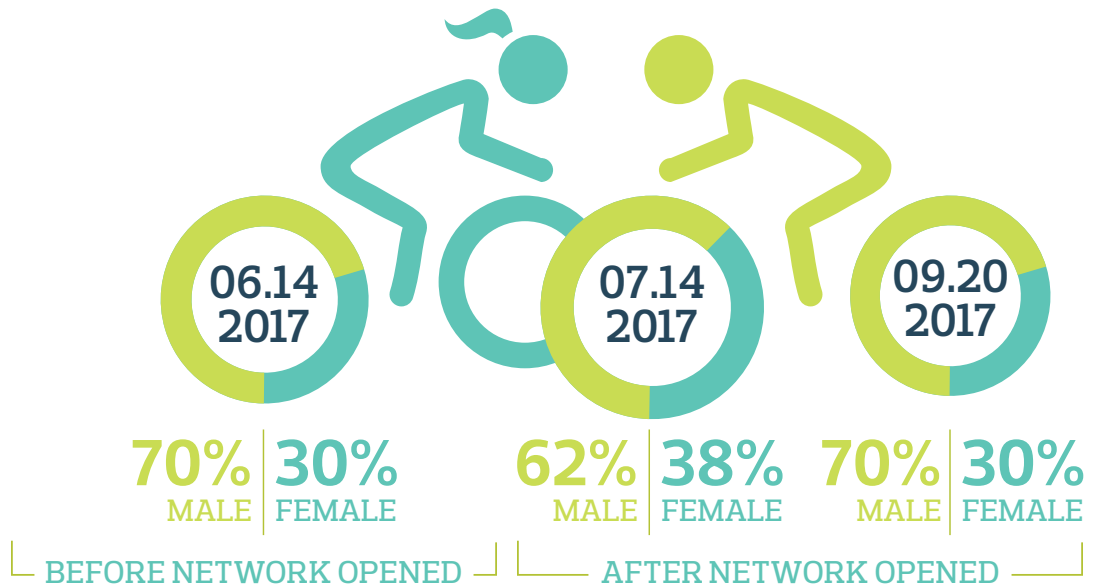
JULY 1, 2017 and 2018
Canada Day

SEPTEMBER 4, 2017
Tour of Alberta

Gender Equity

Increasing the proportion of female cyclists is an important target because of the disparity of females cyclists compared to male cyclists identified in Edmonton and other cities. Research from other cities has shown that enhanced cycling infrastructure, such as separated bike lanes, can increase the proportion of female cyclists. This ensures travel options are safe, equitable and inclusive for all.

Additional monitoring is required to confirm and assess the impacts of the Downtown Bike Network on female cyclists, as ridership can be affected by a number of factors such as weather, facility type, and location. Initial numbers are shown below:

06.14 2017 — **70% MALE** | **30% FEMALE**

07.14 2017 — **62% MALE** | **38% FEMALE**

09.20 2017 — **70% MALE** | **30% FEMALE**

BEFORE NETWORK OPENED

AFTER NETWORK OPENED

Cyclist–Related Reported Injuries

The Downtown Bike Network is also targeting a decrease in the number of cyclist-related injuries. Research shows that improvements in infrastructure correlate to decreases in injuries—with protected bike lanes among the best way to reduce that risk.

A road safety review is underway with the help of consultants. The review will look at how the Downtown Bike Network is operating and functioning and will review conflicts and interactions between pedestrians, vehicles and cyclists. Results will be shared once complete in 2019.

User Experiences and Safety

The Downtown Bike Network has also contributed to positive experiences and feelings of safety, especially for cyclists. Street Team data, two online surveys, a driver education survey, information

received through 311 and social media shows the improvements made for cyclists while highlighting the need to continue improving comfort for other road users.

Street Team Survey Results

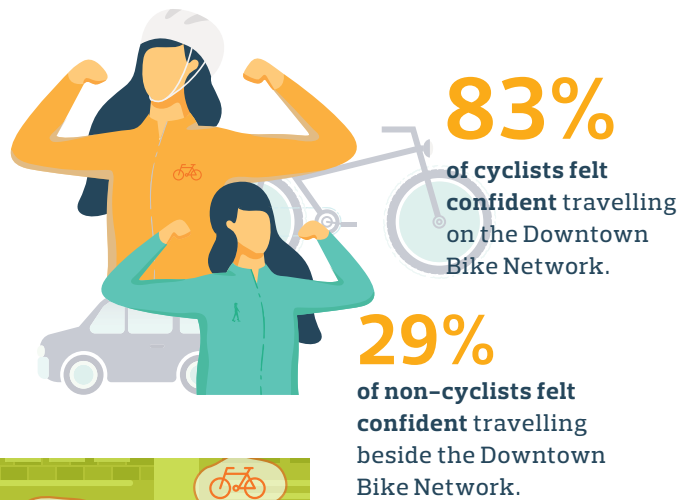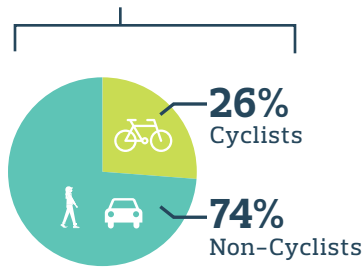The City of Edmonton's Street Team interacts with cyclists and pedestrians every week at different points along the Downtown Bike Network. The 2017 results are shown below:

The City's Street Team engaging with cyclists and pedestrians along the Downtown Bike Network.
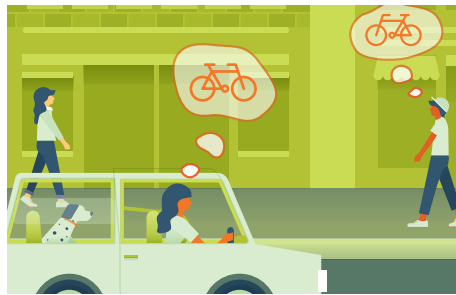
7,002

People Engaged: by Bike Education Street Team

26% Cyclists

74% Non-Cyclists

83% of cyclists felt **confident** travelling on the Downtown Bike Network.

29% of non–cyclists felt **confident** travelling beside the Downtown Bike Network.

44% of non–cyclists would consider **cycling** due to the Downtown Bike Network.

79% of conversations with all users were **positive**.

For additional information on the Downtown Bike Network and cycling in Edmonton visit:
Edmonton.ca/Cycling

From the Downtown Comfort Survey

People were surveyed online to assess cyclist, driver and pedestrian comfort travelling on or beside the Downtown Bike Network. The results show that cyclists feel the most comfortable with the bike network, while motorists feel the least comfortable. 1,459 responses were collected as of April 30, 2018.

FIGURE 2: Downtown Comfort Survey

Percentage of People Who Feel Comfortable
Using the Downtown Bike Network Corridor
as a Cyclist/Motorist/Pedestrian

	Cyclist	Motorist	Pedestrian
#of people:	613	906	689
Knowing where they need to be on the roadway	89%	56%	73%
Understanding what movements others are likely to complete	73%	37%	57%
Feeling protected because there are adequate safety measures	81%	40%	60%
Accessing destinations they want to travel to in downtown	74%	38%	63%
Being able to connect to other parts of the city	59%	43%	60%

FIGURE 3: Downtown Comfort Survey

Percentage of Cyclists/Motorists/Pedestrians
Who Agree With the Following Statements

	Cyclist	Motorist	Pedestrian
#of people:	671	979	751
I have a better impression of downtown because of the bike network	84%	34%	55%
I will visit downtown more often because of the bike network	73%	27%	43%
I will recommend the bike network to others	89%	36%	58%

From the Driver Education Survey

New signage was included as part of the Downtown Bike Network. An education campaign was then developed to ensure all road users—drivers, cyclists and pedestrians—understood how to confidently navigate along the bike network.

In May 2018, 871 drivers were surveyed online to understand how people were understanding and complying with new signage. Feedback is summarized in Figure 4.

> An education campaign was then developed to ensure all road users—drivers, cyclists and pedestrians—**understood how to confidently navigate** along the bike network.

The City is working to further understand the impacts of the Downtown Bike Network on motor vehicles. The Driver Education survey and the safety review will be used to inform future decisions on the network. Further analysis will be provided in the 2019 Downtown Bike Network comprehensive report.

New signage was included as part of the Downtown Bike Network.

FIGURE 4: Highlights from the Driver Education Survey

No Right Turns on Red Except Bicycles -

How Many Knew This

CORRECT MEANINGS OF SIGN:	
On a red light bikes can turn right	64%
Cars cannot turn right when the light is red	64%

Yield to Bicycles -

How Many Knew This

CORRECT MEANINGS OF SIGN:	
Drivers can only turn when there are no bikes coming	60%
Drivers should yield and look both ways before turning	53%

Green Boxes at Intersections -

How Many Knew This

CORRECT MEANINGS OF SIGN:	
Watch for cyclists	68%
Stop behind the white line	54%
Do not stop on the green paint	41%

Striped Green Paint at Intersections -

How Many Knew This

CORRECT MEANINGS OF SIGN:	
Yield to cyclists in the bike lane and pedestrians in the crosswalk	61%
Do not stop on the striped green paint	30%

A post–campaign survey will be issued later this yeat to test the effectiveness of the campaign and results wll be shared in the 2019 Downtown Bike Network comprehensive report.

The Protected Bike Routes And Snow Clearance Survey

People were surveyed online to understand the use of protected bike routes and snow clearance in winter

37%
of respondents are cycling more this winter; 9% are cycling less.

80%+
are satisfied with the protected bike routes and snow clearance.

29%
said they would only cycle in the winter on protected bike routes that are cleared of snow/ice.

- **Most popular routes** for winter cycling from 2017–2018 were:

    - 102 Avenue

    - 100 Avenue

    - Path west of 109 Street

    - 103 Street

    - 105 Avenue

    - 106 Street (downtown and south of river)

    - 83 Avenue

311 CALLS AND EMAILS

Approximately 300 calls and emails were received about the Downtown Bike Network between June 2017 to April 2018.

Comments came from cyclists, pedestrians, drivers, people who live downtown, people who work downtown, citizens in general and visitors to the city. Common themes included:

- concerns of cyclists to fix or address infrastructure (e.g. a sign broken or missing) or concerns with driver behaviour (e.g. adjacent to the bike lanes or vehicles travelling in the bike lanes).

- concerns with cyclist behaviour (e.g. cyclists riding on sidewalks)

- positive feedback on the Downtown Bike Network or bike lanes

- impacts to congestion; vehicle parking impacts

- concerns with the number of people using the bike lanes

- people seeking information such as maps, rules and expectations

SOCIAL MEDIA

Social media, such as Twitter and Facebook, have been useful tools to share information and build awareness about the Downtown Bike Network. Over the last year, the Downtown Bike Network has had:

- 533,399 total impressions, which is the second highest number of impressions on Twitter for any city project in 2017 next to #yegCanada150 .

- 10,870 total engagements, with an average engagement rate of 2%, which is higher than the 2017 average engagement rate for all city projects of 0.6%.

SOCIAL MEDIA
Definitions

Impressions:
the total number of times a Tweet has been seen in either a user's timeline or search results.

Engagements:
the number of times a user has interacted with a Tweet (including but not limited to Retweets, clicks and likes).

533,399
Total Impressions

The Second Highest Number of impressions on Twitter for any city project in 2017.

Ongoing Evaluation and Performance Monitoring

The ongoing monitoring and feedback will contribute to the comprehensive report targeted for 2019.

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Information and data is essential to managing current cycling infrastructure and planning for more. The City of Edmonton has partnered with the University of Alberta to develop a performance monitoring framework for the Downtown Bike Network. This will help measure the connectivity of the current bike network with proposed bike networks, develop an overall evaluation for monitoring performance over time and continue to compare before and after performance of the Downtown Bike Network. These results are also anticipated in early 2019 and will complement the safety review, a further review of cyclist volumes and user perceptions, and a snapshot on how patron shopping habits and perceptions have changed over time for street-oriented businesses along the network.

What We Have Learned (So Far) and Next Steps

After its first year, the Downtown Bike Network is achieving goals of increasing the number of positive cyclist user experiences by encouraging more people to consider cycling year-round and contributing to cyclists' feelings of comfort and safety. The satisfaction, comfort and positive perceptions from cyclists is an important measure of success. The data collected so far also shows areas for continued improvement including driver comfort and education with new signage. The ongoing monitoring and feedback will contribute to the comprehensive report targeted for 2019. It will serve to inform bike education work to ensure a continued positive cycling experience along the Downtown Bike Network, and along other existing and planned routes in the City. It will also assist staff in planning for and maintaining a high quality bike network.

The Downtown Bike Network is an important connection in the growing network of bike routes in Edmonton and opportunities overall for people to travel in Edmonton.

For additional information on the Downtown Bike Network and cycling in Edmonton visit:

Edmonton.ca/Cycling